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(*Pro Calcaria* Cate, 1973. *ibid.*: 106) (*non Calcaria* PORAT, 1878. Bih. Svenska Vetenskakad. Handlingar 4: 7, 10. Phylum Arthropoda, Class Myriapoda).

I extend my sincere thanks to Dr. A. Myra Keen of Stanford University for help with the source material needed for this note.

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## Subtidal Mussel Beds in Baja California with a New Record Size for *Mytilus californianus*

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THE MOST CONSPICUOUS BIVALVE of the Pacific Coast of North America is the common California sea-mussel, *Mytilus californianus* Conrad, 1837. This species is typical of the intertidal zone of rocky coasts, although BERRY (1954) cited information from divers that living specimens had

been observed at depths of 15 - 40 feet (4.5 - 12m) off Palos Verdes, California. He also noted that a 228mm specimen had been dredged from deep water off northern Humboldt County, California (Berry Coll. No. 17235).

In carrying on field work in Lower California I discovered aggregations of large *Mytilus californianus* on seamounts; the size of some of the individuals exceeds that of the largest individual recorded to date. These mussels have been observed on 2 field trips, one in July 1971 and the second in August 1972. The area investigated was the Roca Ben and Johnston seamounts, about 298km south of San Diego, California and approximately 10km west of Bahía de San Quentin, Baja California. The top of Roca Ben is about 10.5m below the water surface, while the Johnston seamount is double peaked, with the higher peak at about 3m depth and the lower peak at 18m depth. The west side of both seamounts has a sheer face of about 12m and old basalt flows can be observed. The mussel beds generally occupied the south and southeast sides of the seamounts ranging from the 24m depth to the top of each pinnacle. The currents for the most part come from the northwest side of each peak, and in both years of observation, 1971 and 1972, the speed of the current was estimated to be about 8 knots (15km) per hour on the tops of the seamounts. Thus, the mussel beds occupied the lee side of these seamounts.

The largest museum specimen of *Mytilus californianus* is Berry's 228mm specimen noted above. The largest specimen I have measured is 251mm long (Marin College collection A-1) from Johnston seamount. A second large specimen, collected from Roca Ben seamount, was 247mm long and 111mm wide. The wet weight of this specimen was 900g. A 235mm specimen was confirmed as *M. californianus* by the staff of the California Academy of Sciences in San Francisco (CASG collection Locality 47730). Interestingly, a bed of large mussels was also found intertidally on the south side of Punta Banda, near Ensenada, Baja California. The largest specimen noted there was 238mm long (Marin College collection A-2). Additional specimens were collected from both seamounts and are presently in the Biology Museum of the College of Marin.

The mussel beds on the seamounts are characterized by the large sizes of the individuals present. At Roca Ben seamount a 1m<sup>2</sup> quadrat was selected as a typical section of the large mussel beds; a total of 225 mussels were counted in this square. Ten of these mussels were pulled off randomly for examination; 6 were alive, the other 4 shells were empty. The average length of the 10 shells was 222mm. The barnacle *Balanus tintinnabulum* (Linnaeus, 1758) was very abundant on these mussel shells; the mean number of barnacles on the 10 shells was 65.9. As well as the barnacles, numerous species of other organ-

isms were found growing on the 10 mussels, including 5 species of algae; 2 of sponges, 2 of hydroids, 4 of polychaetes, 2 of crustaceans, 3 of mollusks, and 6 of bryozoans. Among the larger mussels small individuals of 1 to 2 cm in length were noted, giving evidence of recruitment to the population. All in all, the mussel beds appear to be thriving and are dominated by large individuals.

The dominant seastar on the seamounts was *Pisaster giganteus* (Stimpson, 1857), some with arms spanning approximately 60 cm. All *P. giganteus* observed were on top of mussels. Twenty of these large seastars were pulled off to ascertain if they were feeding on the mussels; in all cases, however, they appeared to be feeding on the *Balanus tintinnabulum* attached to the mussels. No obvious predation on the large dominant mussels in the beds was observed.

Although some effort was made to obtain the largest specimen of *Mytilus californianus* in the populations on the seamounts, I suspect that still larger ones exist than those we did collect. A presumably larger specimen than is reported here was dropped on the way back to the boat after a long dive and regrettably time did not allow for more searching.

My profound appreciation to Dr. Cadet Hand, Director of the Bodega Marine Laboratory, University of California, is expressed for his assistance in my mussel studies.

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### Many Thanks to the San Diego Shell Club

After the July issue of our Journal had gone to press, there arrived another generous donation to our Endowment Fund from the San Diego Shell Club. As the previous contributions, this latest gift will assist us in gradually attaining our goal, that of at least keeping the cost of our publication as low as possible and, eventually, to reduce membership dues — barring the effects of inflation.

#### ADDENDUM

Through an oversight the following statement was omitted in the manuscript of the paper by LOESCH & HAVEN (see our July issue). It should be added on page 80 under "Acknowledgments."

Financial assistance was obtained from the Virginia Marine Resources and the National Marine Fisheries Service through the Commercial Fisheries and Development Act (88-309), Project No. 3-124-R.

## Endowment Fund

In the face of continuous rises in the costs of printing and labor, the income from the Endowment Fund would materially aid in avoiding the need for repeated upward adjustments of the membership dues of the Society. It is the stated aim of the Society to disseminate new information in the field of malacology and conchology as widely as possible at the lowest cost possible.

At a Regular Membership meeting of the Society in November 1968 a policy was adopted which, it is hoped, will assist in building up the Endowment Fund of the Society.

An issue of the journal will be designated as a Memorial Issue in honor of a person from whose estate the sum of \$5000.- or more has been paid to the Veliger Endowment Fund. If the bequest is \$25 000.- or more, an entire volume will be dedicated to the memory of the decedent.

### Publication Date of THE VELIGER

THE PUBLICATION DATE of The Veliger is the date printed on the index page; this applies even if the date falls on a legal holiday or on a Saturday or Sunday, days when the U. S. Post Office does not expedite second class mail matter. That the printed date is the actual date of publication under the rules of the International Commission on Zoological Nomenclature is based on the following facts: 1) The journal is delivered to the Post Office on the first day of each quarter, ready for dispatch; 2) at least three copies are mailed either as first class items or by air mail; 3) about 20 copies are delivered in person to the mail boxes or to the offices of members in the Berkeley area; 4) two copies are delivered to the receiving department of the General Library of the University of California in Berkeley. Thus our publication is available in the meaning of the Code of the ICZN. The printed publication date, therefore, may be relied upon for purposes of establishing priority of new taxa.